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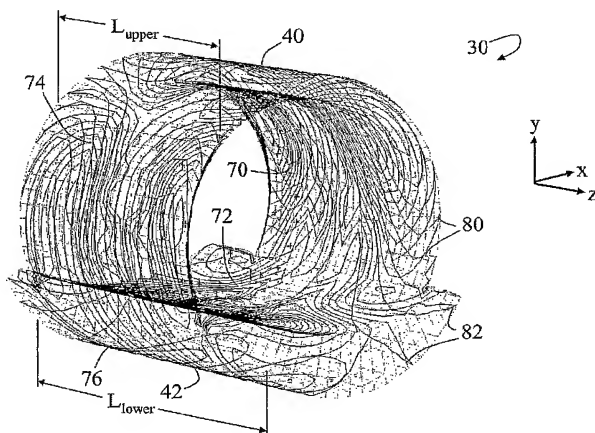
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(54) Title: ASYMMETRIC ULTRA-SHORT GRADIENT COIL FOR MAGNETIC RESONANCE IMAGING SYSTEM



(57) Abstract: A magnetic field gradient coil includes upper and lower sections (40, 42) that define a coil bore (44) therebetween. The upper section (40) has an arcuate curvature ( $C_{upper}$ ) transverse to a longitudinal direction and a length ( $L_{upper}$ ) in the longitudinal direction that is smaller than a longitudinal length ( $L_{lower}$ ) of the lower section (42). Gradient coil windings (70, 72, 74, 76, 102, 104, 112, 114) impose one or more transverse magnetic field gradients on a static magnetic field generally oriented in the longitudinal direction. The coil windings are supported by both the upper and lower sections (40, 42) of the coils support. The coil windings supported by the upper section (40) are longitudinally limited in distribution to the longitudinal length ( $L_{upper}$ ) of the upper section (40), which is shorter than its diameter. The coil windings supported by the lower section (42) are longitudinally distributed across substantially the longitudinal length ( $L_{lower}$ ) of the lower section (42).

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